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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,552	02/26/2004	Hiroyoshi Kuge	8008-1050	3414
466 7590 01/18/2007 YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			EXAMINER GARBOWSKI, LEIGH M	
			ART UNIT	PAPER NUMBER
			2825	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/18/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/786,552

Applicant(s)

KUGE ET AL.

Examiner

Leigh Marie Garbowski

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-8 is/are allowed.
- 6) ☒ Claim(s) 9-14 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

Claim 12 is objected to because of the following informalities: what is meant by 'previously prepared' [line 6] is not clear in terms of the semiconductor IC device structure; and, what is meant by "said empty cell" [line 9] is confusing since the previous feature recites that an optimal repeater circuit is "laid out in said one empty cell or said plurality of empty cells". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 9-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment at page 10 beginning at line 14 added the subject matter "embodied in a computer-readable medium" which was not described in the original specification. Only the program per se was described for allowing a computer to execute [see originally filed page 10, lines 15-16, 21]. Although the original specification discloses computer apparatus [see originally filed page 21, line 10 through page 23, line 3], including that "The functions and processes of those means should preferably be accomplished a program which is run by a computer," the original specification is silent regarding the program of claims 9-10 being particularly embodied in a computer-readable medium.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 9-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A program per se is not one of the statutory categories of invention. See the remarks provided below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Okawa [Patent Abstracts of Japan Publication Number 2000022081].

Okawa discloses a semiconductor IC device comprising: predetermined I/O cells provided in an I/O area in a peripheral portion of a chip and to be connected to external pins; signal wirings which transfer a test signal to said I/O cells and are provided in said I/O area in a direction along which I/O cells; and at least one empty cell where said signal wirings run and which is to be a transfer path for said test signal, is provided in said I/O area and has a repeater circuit that receives said test signal and outputs said test signal wherein the empty cell is not connected to the external pin; wherein said I/O cells include a boundary-scan register circuit and said signal wirings include a wiring for a signal to be supplied to said boundary-scan register circuit; wherein said I/O cells include a scan flip-flop circuit for a scan path test and said signal wirings include a wiring for a scan path test signal to be supplied to said scan flip-flop circuit [Abstract; figure 3; paragraphs 0016 and 0017].

Claims 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Jones ["JTAG Clock & Control Signal Distribution Scheme"]

Jones discloses a semiconductor IC device comprising: predetermined I/O cells provided in an I/O area in a peripheral portion of a chip and to be connected to external pins; signal wirings which transfer a test signal to said I/O cells and are provided in said I/O area in a direction along which I/O cells; and at least one empty cell where said signal wirings run and which is to be a transfer path for said test signal, is provided in

said I/O area and has a repeater circuit that receives said test signal and outputs said test signal wherein the empty cell is not connected to the external pin; wherein said I/O cells include a boundary-scan register circuit and said signal wirings include a wiring for a signal to be supplied to said boundary-scan register circuit; wherein said I/O cells include a scan flip-flop circuit for a scan path test and said signal wirings include a wiring for a scan path test signal to be supplied to said scan flip-flop circuit [see the whole document].

Allowable Subject Matter

Claims 1 and 3-8 are allowed.

The following is an examiner's statement of reasons for allowance: as per claims 1 and 3-4, the prior art of record does not disclose, teach, or suggest a semiconductor integrated circuit device particularly comprising plural repeater circuits that are each in a different part of said I/O area that does not include one of said I/O cells, in combination with all of the features as recited in their totality [see figure 3 for clarity]. The applicant argued that the references do not disclose that the repeater circuits are optimized for a delay condition for a location thereof. The examiner has written the above reason for allowance to clarify that plural repeater circuits that are each in a different part of said I/O area that does not include one of said I/O cells is the subject matter recited to hold the claims allowable; in this art repeater circuits are placed for the very fact of optimizing a delay condition according to the electrical characteristics of the repeater circuits and the locations thereof.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Amendment

The amendment filed 10/17/2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added

material which is not supported by the original disclosure is as addressed above under section 112.

Applicant is required to cancel the new matter in the reply to this Office Action.

Regarding the rejection maintained under section 101, the examiner did not intend for the applicant to amend the claim with the suggested wording, but to consider language to include statutory subject matter. The claim presents functional descriptive material; functional descriptive material includes computer programs which impart functionality when employed as a computer component. Functional descriptive material, per se, is not statutory. Functional descriptive material claimed in combination with an appropriate computer readable medium to enable the functionality to be realized is patent eligible subject matter if it is capable of producing a useful, concrete and tangible result. The computer readable medium must be the physical structure which provides the functional descriptive material in usable form to permit functionality to be realized with the computer. These comments must be considered in view of the new matter concern raised above.

Response to Arguments

Applicant's arguments filed 10/17/2006 have been fully considered but they are not persuasive. With respect to claims 11-14, the applicant argues that the references do not disclose that the empty cell is not connected to the external pin. However, the examiner interprets the claim to recite that the repeater circuit is not connected to the external pin, because the empty cell has a repeater circuit. This scenario is clearly depicted in the figures provided in the references, as there is no direct connection as the examiner intuitively the applicant intends to imply [via figure 4]. If this interpretation is inaccurate beyond a broadest reasonable interpretation of the claimed subject matter, the examiner requests clarification of the claim language and arguments. Furthermore, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "the semiconductor integrated circuit of claim 11 can suppress a delay of a test signal and waveform depressions caused by an empty cell and can ensure delay adjustment. As a result, the reliability and the precision of the test are improved. Furthermore, claim 11

allows connection of test nets and insertion of repeaters by merely laying out I/O cells based on the device specification. This reduces the design and development cost for test facilitating design and makes it easier to cope with small production of multiple types of devices.") are not recited in the rejected claim(s). Moreover, these functional capabilities merely attempt to define the device by what it does rather than by what it is. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Marie Garbowski whose telephone number is 571-272-1893. The examiner can normally be reached on days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LEIGH M. GARBOWSKI
PRIMARY EXAMINER